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RUEHMN/AMEMBASSY MONTEVIDEO 2004
RUEHKO/AMEMBASSY TOKYO 0393
RUEHBS/USEU BRUSSELS
RUEHBU/AMEMBASSY BUENOS AIRES 2267
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RUEHNE/AMEMBASSY NEW DELHI 0059
RUEHBJ/AMEMBASSY BEIJING 0390
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RUEHDG/AMEMBASSY SANTO DOMINGO 0177
RUEHRG/AMCONSUL RECIFE 2953
RUEHRI/AMCONSUL RIO DE JANEIRO 7142

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SIPDIS

DEPT FOR WHA/BSC, WHA/EPSC, AND EB/CIP
STATE PASS USTR FOR MSULLIVAN
STATE PASS EXIMBANK
STATE PASS OPIC FOR DMORONESE, NRIVERA, CVERVENNE
NSC FOR SUE CRONIN
USDOC FOR 4332/ITA/MAC/OLAC/JANDERSEN/ADRISCOLL/MWARD
USDOC FOR 3134/USFCS/OIO/SHUPKA
TREASURY FOR OASIA, DAS LEE AND FPARODI

SENSITIVE
SIPDIS

E.O. 12958: N/A
TAGS: [FCPS](#) [EIND](#) [PGOV](#) [ETRD](#) [EINV](#) [BEXP](#) [BR](#)
SUBJECT: SEMICONDUCTORS RETURN TO BRAZIL AFTER 15 YEARS

REF: Brasilia 891

SUMMARY

¶1. (U) American company Smart Modular Technologies (Smart) recently inaugurated its first semiconductor factory in Brazil. The Smart plant, which encapsulates imported finished memory wafers, is the first semiconductor facility in Brazil since the early 1990s when all microchip companies closed operations and left the country. For the last 15 years, Brazil has been importing microprocessor components and assembling chips, but not producing semi-conductors locally. Despite increasing operating costs due to the strengthening Brazilian currency, Smart expects healthy profits (owing to steep Brazilian import duties on semiconductors and a protected market). GoB officials claim that the return of semiconductors is the result of a successful GoB strategy (announced in 2003) to attract technology companies to Brazil. However, this GoB strategy played no part in Smart's decision to invest, and has yet to achieve success in attracting other semiconductor investment.

Brazil ostensibly wants to attract foreign investment in the technology field, but does not appear ready yet to open its market. In our view, a good first step would be for the GoB to adhere to the 1997 WTO Information Technology Agreement, which zeros out tariffs on a wide range of high-tech goods, including semiconductors. However, the GOB appears as yet unready to take such a step. END SUMMARY.

SMART SETS UP SHOP

12. (U) American company Smart Modular Technologies, headquartered in Fremont, California, recently inaugurated its first semiconductor factory in Brazil, in Atibaia, Sao Paulo state. At the ceremonial opening, Smart President Iain MacKenzie and Smart Brazil General Manager Noboru Takahashi hosted GoB officials from the Ministry of Development, Industry and International Trade (MDIC); the Sao Paulo state Secretariat of Science, Technology and Economic Development; the Sao Paulo Governor's Chief of Staff; representatives from Samsung, one of Smart's tier-one wafer supply partners; and EconOffs. This is the first semiconductor plant to operate in Brazil since the early 1990s when Intel, Sun, and every other chip processor left. Since then, Brazil has been importing microprocessor components and assembling chips, but not producing semi-conductors.

13. (U) COMPANY PROFILE: Smart (NASDAQ: SMOD) is a leading independent designer, manufacturer and supplier of electronic subsystems to original equipment manufacturers (OEMs). In addition to its recently inaugurated factory in Sao Paulo, Smart has international operations in Santo Domingo, Dominican Republic; Bangalore, India; Penang, Malaysia; Dong Guan, China; and Gunpo, Korea. Domestically, Smart operates in Tewksbury, MA; Irvine, CA; Fremont, CA; and Aguada, Puerto Rico. Smart offers more than 500 standard and custom products to OEMs engaged in the computer, industrial, networking, gaming, and telecommunications markets. Smart's comprehensive memory product line includes DRAM, SRAM, and Flash memory. Smart's Display Products Group designs, manufactures, and sells liquid crystal display (LCD) solutions to customers developing casino gaming systems as well as embedded applications such as kiosk, ATM, point-of-service, and industrial control systems.

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14. (U) SMART'S ATIBAIA OPERATION: Located 47 miles from the city of Sao Paulo, the Atibaia site is currently producing two million semiconductors per month. The plant only conducts the final stage of the semiconductor process, called encapsulation, in which silicon laminates (memory wafers) are cut, encapsulated in microchips, and then incorporated into semiconductor boards. Smart imports finished memory wafers from Korean electronics giant Samsung. Smart executives estimate that producing the wafers in Brazil would require an investment of USD 1 billion.

15. (U) PROFITING FROM PROTECTION: Under the Brazilian tariff regime, imported semiconductors face an 18 percent duty, while imported semiconductor components that will be assembled in Brazil face an 8 percent duty. Imported memory discs such as those supplied by Samsung to Smart face no duty. In 2005, 5.6 million personal computers (PCs) were sold in Brazil. Smart estimates that only forty percent of the memory cards in these PCs were of legal origin. Smart assembled about half of these legal cards using imported components. Now Smart will actually manufacture the cards here and take advantage of having avoided tariffs in the hopes of increasing its market share against illegal memory cards. Smart executives say that demand from local PC manufacturers is already overwhelming. To meet demand, Smart employs 100 workers working around the clock in 3 shifts. Nevertheless, Smart already has a backlog of orders from Dell, Hewlett Packard, IBM, Toshiba, and every other major computer maker in Brazil. Prior to commencing its Atibaia operation, Smart operated from Guarulhos, Greater Sao Paulo, assembling (though not producing) memory cards. The opening of the Atibaia facility is part of Smart's global strategy to vertically integrate production. With the opening of the Atibaia plant, the Guarulhos plant will close down.

16. (U) IPR PROTECTION: When asked about Brazil's poor reputation for intellectual property rights (IPR) protection, President MacKenzie told EconOffs, "We don't even bother with applying for patents in Brazil. In the time it takes for someone to clone our product, we've already moved on to the next generation of technology. We're ahead of the curve. If someone wants to copy our technology, then they will always be behind us." But MacKenzie was quick to point out that access to proprietary information will be very tight in Atibaia. Smart is in the process of installing SAP

software to be able to integrate the Brazilian branch with its global operations, but confirms that it will not engage in research and development in Brazil, nor will any proprietary information reside on Smart's Brazilian network servers. MacKenzie went so far as to say, "Smart Brazil employees won't even have access to our proprietary technology."

17. (U) EXPORT OUTLOOK: Later in the year, Smart will start to export memory cards from Brazil, though only to its own international Smart affiliates, such as production sites in the Dominican Republic and Malaysia. Smart is working to implement "Recof," a special customs rate created by Brazil Customs that facilitates the importation and exportation of goods into and out of Brazil. Recof requires a minimum of USD 5 million in exports during the first year and USD 10 million in the second. Smart's Takahashi predicts, "We'll meet this requirement easily." When asked about expansion of exports to other markets, Smart President MacKenzie confirmed that he has little hope of exporting beyond shipments to their own affiliates, "We just can't compete with giants like Samsung in open markets." Although Smart may try to export within Mercosul, MacKenzie claimed, "For now, we are going to have our hands full supplying Brazil. But we have room for expansion.

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Since Brazil is one of the world's fastest growing emerging markets, our enhanced capabilities locally will provide us with a competitive advantage as business opportunities in this region continue to grow."

ATTRACTING SEMICONDUCTORS TO BRAZIL

18. (U) GoB officials heralded Smart's Atibaia operation as the first success in a national strategy to attract technology investment. In November 2003, President Lula approved a proposal for industrial policy guidelines that would, among other things, provide for investment in technology and tax exemptions for capital goods. Launched in March 2004, the Industrial, Technological and Foreign Trade Policy (PITCE) seeks to "attract technology in key sectors." The PITCE elected four sectors as strategic priorities: pharmaceuticals, capital goods, software, and semiconductors. To attract investment in these sectors, the GoB offers a bundle of tariff and export incentives. Moreover, at the PITCE inauguration, MDIC Minister Furlan announced that, in 2004 alone, the new strategy would count on over USD 200 million of GoB support and USD 6 Billion in financing incentives from the Bank of Brazil (BB) and the National Economic and Social Development Bank (BNDES). Furlan also announced that the Recoф customs regime would play an important role in attracting investors.

COMMENT: OUTLOOK CLOUDY FOR FUTURE INVESTMENT

19. (SBU) PITCE NOT A FACTOR: The PITCE was announced in 2003 and inaugurated in 2004. However, the results of this USD 200 million program are less than impressive. Smart's self-financed Atibaia operation represents a relatively modest USD 15 million investment and did not rely on PITCE incentives from BB or BNDES. In fact, when EconOffs asked about the reasons for Smart's decision to start production of semiconductors in Brazil, Smart executives didn't even appear aware of PITCE. Instead, they focused on the opportunities created by small-scale producers within closed economies like Brazil. The recent and expected growth in Brazil's consumer electronics and PC markets was cited as the sole reason for deciding to start producing. Industry estimates placed ten percent of the 2005 world consumption of electronics products in South America, with the Brazilian Association of Electrical and Electronic Industries (ABNEE) claiming that Brazil accounts for 68 percent of that demand. ABNEE forecasts a USD 125 billion Brazilian electronics market by 2010. Operating in Brazil since 2002, Smart saw that it could either continue to import and assemble at an eight percent duty, or manufacture with no duty on component parts. According to Smart Brazil's General Manager Takahashi, "The choice was simple." According to Smart President MacKenzie, "Samsung is

too large-scale to set up operations in a closed market like Brazil. But Smart has the mid-sized flexibility to set up a small operation in Brazil and sell domestically." Smart executives further noted that the decision to manufacture was part of an effort to vertically integrate Smart's global operations and was more a result of internal corporate strategy than GoB development strategy. Smart's Treasurer commented to EconOffs, "It's not even that large of an expansion, since at the same time we're opening here we're shutting down our Guarulhos plant."

¶10. (U) OTHER SEMICONDUCTOR PLANS: As part of the digital television standard negotiations (reftel), Japanese and European

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firms have stated they will consider establishing semiconductor manufacturing plants in Brazil, contingent upon the GoB's choosing their respective standards. These discussions are independent from PITCE strategies, although other plans for semiconductors that would make use of PITCE incentives are also in the works. In September 2005, the GoB announced plans to establish a semiconductor industry in the state of Minas Gerais, where approximately 990 acres are being dedicated to semiconductor and semiconductor-related manufacturing and design. The Minas Gerais Technological Park will be anchored by Companhia Brasileira de Semicondutores (CBS). The target completion date is early 2007. The Minas Gerais Technological Park is Brazil's flagship semiconductor manufacturing venture. CBS is backed by various Brazilian development banks and private investors worldwide. The company is focusing on analog and mixed-signal products for consumer, automotive, and industrial applications.

¶11. (SBU) WHY SEMICONDUCTORS FLED: Smart is not the first company to produce semiconductors in Brazil, but it is the first company in the past 15 years to produce here. Industry insiders regularly refer to the "tech flight" of the early 1990s, when every single producer of semiconductors closed shop and left Brazil. When protectionist policies begun during the time of the military dictatorship were ended. In 1984, Brazil codified these policies to promote a local computer industry by restricting imports and promoting local manufacture and foreign investment through a comprehensive and highly restrictive "informatics law." As a result, tech industry companies flowed into Brazil to take advantage of the sheltered market. (The 1984 informatics law and its implementation were the subject of a U.S.-initiated Section 301 investigation between 1985 and 1989.) At the end of the 1980s, the Brazilian electronics component industry could count more than twenty domestic semiconductors companies. In 1991, Brazil revised its informatics legislation to phase out some of the import and investment restrictions, resulting in the final removal of quantitative import restrictions. By October 1992, import restrictions that had been in place since the mid-1970s for computers and related (informatics) products were removed. However, the government's lifting of restrictions on the importation of electronic components led to widespread failures among the country's domestic semiconductor companies. Foreign companies -- Intel, Sun Microsystems, and every other semiconductor company -- shut down operations. As a result, the Brazilian domestic electronics components industry has become heavily reliant on imports in the last decade. The few remaining component manufacturers produce components with limited technological content, and supply only 20 percent of the internal demand. The remaining 80 percent represented a 2003 trade deficit of USD 3 billion, with USD 1.7 billion due to semiconductors.

¶12. (SBU) BRAZIL'S SEMICONDUCTOR OUTLOOK: Looking around the world, developing countries with low or no duties on electronics components and systems over the past two decades (Hong Kong, Taiwan, Singapore) have been successful in developing strong, vibrant economies with dynamic high-tech industries. Meanwhile, developing countries with high duties (Latin America, India) have not been successful. A special case was Korea which built a narrow semiconductor industry in spite of its 8 percent duty. With the PITCE, it appears that Brazil hopes to replicate Korea's experience. However, Korea's growth was largely based on exports of semiconductors, not on supplying semiconductors to its domestic electronic producers. There are no indications that Brazil will stop protecting its IT

sector or adhere to the WTO Infomation Technology Agreement (which zeros out tariffs on semiconductors and other high-tech goods).

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Indeed, this stance has left Brazil uncompetitive in world IT markets. The negative effects of the Brazilian model have long been recognized even by some of its own industry executives, as evidenced by a 1991 quote from the Wall Street Journal from Touma Elias, President of Sao Paulo PC company Microtec: "We made PCs before the Taiwanese and the Koreans, but instead of being a USD 1 billion company, like (Taiwan's) Acer or (American) AST or Dell, we're a USD 35 million one hoping to be a USD 100 million one. Why? Because our market wasn't open, which made components more expensive." Very little has changed in the last 15 years. Brazil's market is still closed and its efforts to promote semiconductor investment are more likely to draw participants like Smart who will take advantage of Brazil's market protection than to attract the research and development (RND)-driven investment that the GoB desires. To date, Brazil's efforts to establish a global electronics presence have been mixed. Companies such as Motorola have announced RND initiatives in the telecommunications sector. However, efforts to bolster the country's presence in sectors such as semiconductors have not been as warmly received. In 2003, Intel CEO Craig Barrett reportedly ruled out setting up a chip plant in Brazil because of high labor costs. With the Brazilian Real having strengthened more than 35 percent since then, Brazil is becoming even less of an ideal export platform. In the future, it is more likely that Brazil will see foreign investment come from small- to medium-sized tech companies (like Smart) interested in selling to the local market, rather than from large companies (like Intel) focused on exports and RND. END COMMENT.

¶13. (U) This cable was coordinated with AmEmbassy Brasilia.

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